Claims: -

1. An effervescent pharmaceutical formulation for the sustained and ~~controlled oral~~ administration of a pharmaceutically effective amount of a drug selected ~~from~~ a calcium channel blocker, an ACE inhibitor, a narcotic analgesic or ~~analogues~~ combinations thereof, said formulation comprising microcapsules in ~~which~~ the drug is entrapped in a biodegradable polymer.

2. An effervescent pharmaceutical formulation according to Claim 1, wherein, the pH of the formulation allows for optimized delivery of the or each drug.

3. An effervescent pharmaceutical formulation according to Claim 1 ~~or 2~~, wherein the formulation is used to deliver the drug to a patient on a once-daily basis so as to achieve a therapeutic effect over a substantially 24 hour period.

4. An effervescent pharmaceutical formulation according to ~~any preceding claim,~~ wherein the microcapsules have a D 50% between about 100 nm and 900 nm.

5. An effervescent pharmaceutical formulation according to ~~any preceding claim,~~ wherein the drug loading of the microcapsules ranges from about 10% to 70% by weight.

6. An effervescent pharmaceutical formulation for the sustained and controlled oral administration of a pharmaceutically effective amount of a drug selected from a calcium channel blocker, an ACE inhibitor, a narcotic analgesic or a combination thereof, the formulation comprising drug-loaded biodegradable microcapsules having a D 50% between about 100 nm and 900 nm and a drug loading which ranges from about 10% to 70% by weight and wherein the pH of the formulation is adjusted to optimize delivery of the or each drug.

7. An effervescent pharmaceutical formulation according to Claim 6, which can be used to deliver the drug to a patient on a once-daily basis so as to achieve a therapeutic effect over a substantially 24 hour period.

8. An effervescent pharmaceutical formulation according to ~~any preceding claim~~ Claim 1, wherein the microcapsules have a D 50% between about 200 nm and 400 nm.

9. An effervescent pharmaceutical formulation according to ~~any preceding claim~~ Claim 1, wherein the drug loading of the microcapsules ranges from about 20% to 50% by weight.

10. An effervescent pharmaceutical formulation according to to ~~any preceding claim~~ Claim 1, wherein the drug is selected from diltiazem, verapamil, nifedipine, nimodipine, nicardipine, hydromorphone, codeine sulfate, oxycodone, dihydrocodeine tartrate, oxycodeinone, morphine, fentanyl, sufentanil, oxymorphone, buprenorphine, captopril, enalapril, lisonopril and mixtures thereof.

11. An effervescent pharmaceutical formulation according to Claim 10, wherein the drug is a mixture of nifedipine and hydromorphone.

12. A pharmaceutical formulation according to ~~any preceding claim~~ Claim 1, wherein the polymer matrix comprises polylactide; polyglycolide; poly(lactic acid-co-glycolic acid); poly(e-caprolactone); poly(hydroxybutyric acid); polyortho-esters; polyacetals; polydihydropyrans; polycyanoacrylates; polypeptides; cross-linked polypeptides; and stereoisomers, racemic mixtures, co-polymers and polymer mixtures thereof.

13. A pharmaceutical formulation according to Claim 12, wherein the polymer matrix comprises poly-D,L-lactide.

14. A pharmaceutical formulation according to ~~any preceding claim,~~ wherein the release profile measured in accordance with the Paddle Method of U.S. Pharmacopoeia XX at 37∞C and 75 rpm for the or each drug is substantially as follows:

a) 10-30% release within 2 hours after administration;

b) 30-60% release within 4 hours after administration;

c) 60-80% release within 8 hours after administration; and

d) ≥ 80% release within 24 hours after administration.

15. A pharmaceutical formulation according to ~~any one of Claims 1-13,~~ wherein the release profile measured in accordance with the Paddle Method of U.S. Pharmacopoeia XX at 37∞C and 75 rpm for the or each drug is substantially as follows:

a) 10-40% release within 1 hour after administration;

b) 20-60% release within 4 hours after administration;

c) 40-80% release within 8 hours after administration; and

d) ≥ 80% release within 16 hours after administration.

16. A method for the manufacture of microcapsules according to ~~any one of Claims 1-15,~~ which comprises the steps of:

a) dissolving or dispersing a drug and a biodegradable polymer in a solvent to form a mixture;

b) microfluidising said mixture into an external phase to form an emulsion in which the emulsion droplets have a mean diameter less than 1 mm; and

c) stirring said emulsion to form microcapsules having a size (D 50%) between about 100 nm and 900 nm.